

Application No.: 09/732,299
Amendment and Response dated April 20, 2005
Reply to non-final Office Action of October 20, 2004
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Remarks/Arguments:

Introduction

Claims 1-20 and 31-40 are pending. Claims 37-40 have been added.

Claims 1 and 20 have been amended to further describe that the flow-directing outlet baffle has an outlet at the wastewater outlet and extends downward toward the floor of the container and further extends inwardly across the floor of the container toward the heavy waste removal area. Support for these amendments may be found in the Specification at page 15, lines 5-14 and in Figures 1 and 2.

Claim 14 has been amended to non-narrowingly correct a typographical error in its dependencies.

Claim 37 has been added to further describe that the inlet of said flow-directing outlet baffle extends substantially across said width of the container and the outlet of the flow-directing outlet baffle has a width corresponding to the size of the wastewater outlet which is smaller than the width of said inlet of said flow-directing outlet baffle. Support for the claim may be found in claims 34 and 35, in the Specification at page 15, lines 5-14 and in Figures 1 and 2.

Claim 38 has been added to further describe that the detachable flow-directing inlet baffle comprises a vertically upstanding portion to define an inflow conduit and the detachable flow-directing outlet baffle comprises a vertically upstanding portion to define an outflow conduit. Support for the claim may be found in the Specification at page 8, line 22, to page 9, line 22, and in Figures 1 and 2.

Claims 39 and 40 have been added to further describe the separation container as being a molded plastic container and that the floor of the separation container is substantially

rectangular and horizontal. Support for these amendments may be found in the Specification at page 7, line 24, to page 8, line 4.

No new matter is introduced with these amendments. Accordingly, entry of these amendments is respectfully requested.

Summary of the Present Invention:

The invention as presently defined by amended independent claim 1 is directed to a wastewater separator for separating waste from a mixed wastewater stream before the mixed wastewater stream is directed into a sewer system, where the mixed wastewater stream including one or more of heavy waste, light waste and water. The wastewater separator comprises a separation container having a width and a floor; a wastewater inlet to the separation container; and a wastewater outlet from the separation container; the separation container comprising: a wastewater stream director within the container, the wastewater stream director being sized, shaped and positioned relative to the wastewater inlet to direct the wastewater stream along a preferred flow path to permit the light waste to separate from the wastewater stream in a first direction to a collection area and to permit the heavy waste to separate from the wastewater stream in a second direction towards a heavy waste removal area; and a flow-directing outlet baffle having an outlet at the wastewater outlet and extending downward toward the floor of the container and extending inwardly across the floor of the container toward the heavy waste removal area, the flow-directing outlet baffle being positioned within the container for directing the wastewater stream to the wastewater outlet from the heavy waste removal area to remove the heavy waste from the separation container; the flow-directing outlet baffle having an inlet extending across the container adjacent to the heavy waste removal area and having a height sufficient to accelerate flow through the inlet to suck the heavy waste away so as to cause the heavy waste to be carried out of the separation container with the wastewater stream. (emphasis added)

The invention as presently defined by amended independent claim 20 is directed to a wastewater separator for separating light waste from a mixed wastewater stream. The wastewater separator comprises a separation container having a floor, an inlet end and an outlet end; a wastewater inlet to the separation container; a wastewater outlet from the separation container; and air entraining means associated with the wastewater inlet to entrain air into the wastewater stream; the separation container comprising: a wastewater stream director in the container, the wastewater stream director being sized, shaped and positioned to direct the wastewater stream along a preferred flow path which is generally diagonal across the container to facilitate separation of the light waste; and a flow-directing outlet baffle having an outlet at the wastewater outlet and extending downward toward the floor of the container and extending inwardly across the floor of the container toward the wastewater stream director, the flow-directing outlet baffle being positioned in the container for directing the wastewater stream from a downstream end of the preferred flow path to the wastewater outlet; wherein the air entraining means comprise the wastewater stream director. (emphasis added)

As compared to the cited prior art below, the wastewater containers of the present invention operate in a different fashion and are easy to manufacture. For example, the cited art below all rely on sloped floors where heavy solid material flows by gravity toward an outlet or collection area. In contrast, the separation containers of the present invention operate by accelerating heavy waste through an outlet baffle, thereby sucking the heavy waste out of the separation container. In contrast to the presumably ceramic or metallic containers of the cited art, the separation containers of the present invention may also be plastic containers, such as injection-molded plastic containers. As compared to the cited prior art below, the separation containers of the present invention are lightweight and easy to manufacture. More importantly, the separation containers of the present invention operate to remove heavy waste in an entirely different and improved manner than the cited prior art, and corresponding structure for achieving such improvements is claimed.

Section 112 Rejections

Claim 14 is rejected under 35 U.S.C. §112, second paragraph. Applicants respectfully traverse.

The examiner objected to claim 14 as it depended from claim 11 and allegedly has the same scope as claim 11. Claim 14 has been amended to depend from, *inter alia*, claim 10.

Reconsideration and withdrawal of the rejection of claim 14 under 35 U.S.C. §112, second paragraph, is respectfully requested.

Section 102 Rejections

Claims 1-7, 10, 11, 14/2, 14/10, 15, 18/1, 18/2, 19, 20 and 31-35 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 2,076,380 to Marsh (hereinafter "Marsh '380"). Claims 1-7, 10, 11, 14/2, 14/10, 15, 18/2, 20 and 31-34 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 2,140,582 to Hirshstein (hereinafter "Hirshstein '582"). Claims 1-5, 11, 14/1, 14/2, 15, 18/1, 19 and 34-36 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by either one of U.S. Patent No. 1,496,160 to Marsh (hereinafter "Marsh '160") or U.S. Patent No. 1,438,048 to Marsh (hereinafter "Marsh '048"). Claims 1-5, 11, 14/2, 14/2, 15, 18/1 and 19 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 2,284,737 to Hirshstein (hereinafter "Hirshstein '737"). Applicants respectfully traverse.

Marsh '380

Marsh '380 discloses an "oil interceptor". In the oil interceptor of Marsh, a wastewater stream enters from the inlet 20 and is directed downward by a baffle 21. The inlet baffle 21, including its outlet portion 23, is proximal to the inlet 20. (Marsh '380, Figs. 2 and 4). The stream is then separated into two substreams by a deflector bar 29 (Marsh '380, page 2, col. 1,

line 71, to col. 2, line 5). The heavy, solid waste proceeds in the lower portion of the wastewater stream along the bottom of the tank. The bottom of the tank has corrugations which create turbulent flow, causing the solid particles in the wastewater stream to bounce, thus releasing, and impelling upwardly, lighter waste. The lighter waste rises to the surface of the water in the separator. Heavier waste that is suspended in the liquid is drawn to the outlet 42 by suction (Marsh '380, page 3, col. 1, line 64, to col. 2, line 34). A vertical wall 38 separates the outlet 42 and the discharge column 39 from the body of the oil interceptor. (Marsh '380, page 2, col. 2, lines 10-15). Further, the vertical wall 38 is distant from the inlet baffle 21.

Applicants have argued that the vertical wall 38 of Marsh '380 is not a flow-directing baffle. Assuming *arguendo* that one could consider the vertical wall 38 of Marsh '380 to be a flow-directing outlet baffle, such an interpretation still does not read on the subject invention as presently defined by independent claims 1 and 20. Marsh '380 fails to disclose that its vertical wall 38 could extend inwardly across the floor 16 toward the inlet baffle 21.

Thus, Marsh '380 fails to disclose each and every limitation of the independent claims of the subject application.

Therefore, reconsideration and withdrawal of the rejections of claims 1-7, 10, 11, 14/2, 14/10, 15, 18/1, 18/2, 19, 20 and 31-35 under 35 U.S.C. § 102(b) are respectfully requested.

Hirshstein '582

Hirshstein '582 discloses a water clarifying apparatus for reclaiming oil and grease. The apparatus includes an inlet pipe 5 with a baffle 12 proximally opposite the inlet pipe 5. The baffle 12 directs the wastewater stream downward into a central channel 20. As the wastewater stream travels through the channel 20, light waste separates upward to the surface of the water in the apparatus. On either side of the channel 20, there is a series of steps which create turbulent flow, and upon which solid matter can settle. If there is a moderate amount of

suspended substances, those substances will be carried to the outlet through the channel 20. If there is a larger amount, then the suspended substances will settle on the steps, and will work their way into the stream at a later time to be carried out through the outlet 6. Outlet 6 and the vertical passageway 7 are sized approximately to the size of the discharge 8. (Hirshstein '582, Figs. 1 and 2). Outlet 6 is formed in the bottom of the end wall 3 of the apparatus. The end wall 3 of Hirshstein '582 is a vertical end wall.

Applicants have argued that the vertical end wall 3 of Hirshstein '582 is not a flow-directing baffle. Assuming *arguendo* that one could consider the vertical end wall 3 of Hirshstein '582 to be a flow-directing outlet baffle, such an interpretation still does not read on the subject invention as presently defined by independent claims 1 and 20. Hirshstein '582 fails to disclose that its vertical end wall 3 could extend inwardly across the floor 4 toward the inlet baffle 12.

Thus, Hirshstein '582 fails to disclose each and every limitation of the independent claims of the subject application.

Therefore, reconsideration and withdrawal of the rejections of claims 1-7, 10, 11, 14/2, 14/10, 15, 18/2, 20 and 31-34 under 35 U.S.C. § 102(b) are respectfully requested.

Marsh '160 or Marsh 048

The Examiner alleges that Marsh '160 and Marsh '048 "operate similar to the previous Marsh patent '380 except it is specifically noted that the flow effects of the "flow directing outlet baffle" 15 (in both Marsh '160 or '048) causes a "sucking" effect which is desirable in removing the settled solids...." Applicants traverse.

While applicants do not agree with the Examiner's characterization of Marsh '160 and Marsh '048, it is clear in any event that these patents fail to disclose the present invention as presently defined by independent claims 1 and 20.

For example, assuming, as the Examiner has so characterized, that the end walls 15 of Marsh '160 and Marsh '048 are flow-directing outlet baffles, such an interpretation still does not read on the subject invention as presently defined by independent claims 1 and 20. Marsh '160 and Marsh '048 fail to disclose that its vertical end wall 15 could extend inwardly across the floor 16 toward deflector 31.

Thus, Marsh '160 and Marsh '048 fail to disclose each and every limitation of the independent claims of the subject application.

Therefore, reconsideration and withdrawal of the rejections of claims 1-5, 11, 14/1, 14/2, 15, 18/1, 19 and 34-36 under 35 U.S.C. § 102(b) are respectfully requested.

Hirshstein '737

The Examiner alleges that "Hirshstein '737 operates similar to Hirshstein '582 but does not disclose a ramp". Applicants respectfully traverse.

Assuming *arguendo* that Hirshstein '737 operates similar to Hirshstein '582 and presumably that one could consider the vertical end wall 51 of Hirshstein '737 to be a flow-directing outlet baffle, such an interpretation still does not read on the subject invention as presently defined by independent claims 1 and 20. Hirshstein '737 fails to disclose that its vertical end wall 51 could extend inwardly across the bottom 34 towards any of its upstream baffles.

Thus, Hirshstein '737 fails to disclose each and every limitation of the independent claims of the subject application.

Therefore, reconsideration and withdrawal of the rejections of claims 1-5, 11, 14/2, 14/2, 15, 18/1 and 19 under 35 U.S.C. § 102(b) are respectfully requested.

Section 103 Rejections

Claims 9, 12, 13, 14/9, 16, 17 and 18/17 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Marsh '380 in view of U.S. Patent No. 1,121,270 to McDermott (hereinafter "McDermott"). Applicants respectfully traverse.

McDermott discloses a separator, which is also described at column 1 line 12 as a "settling tank." One purpose of the settling tank is to "retain sand, dirt, etc., and to keep it out of the sewer." Heavy waste settles to the bottom 14 of the settling tank, and does not exit the settling tank. (McDermott, page 2 lines 105-124). While the action cited McDermott for its teachings of handles for removal of certain elements to clean the separator, McDermott fails to cure the deficiencies of Marsh '380.

For example, Marsh '380 fails to teach or suggest, *inter alia*, fails to teach or suggest that its vertical wall 38 could extend inwardly across the floor 16 toward the inlet baffle 21, and McDermott fails to teach or suggest that any of its vertical structures at the trap outlet 20 could extend inwardly across the floor toward the inlet 22 of the separator of McDermott. Thus, McDermott fails to cure such deficiencies of Marsh '380.

Therefore, reconsideration and withdrawal of the rejection of claims 9, 12, 13, 14/9, 16, 17 and 18/17 are therefore respectfully requested because Marsh '380 and McDermott, individually or in combination, fail to teach or suggest the present invention.

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Therefore, it is respectfully submitted that independent claims 1 and 20, and all claims dependent therefrom are patentably distinct over the art of record. Reconsideration and withdrawal of all claim rejections are respectfully requested.

Summary

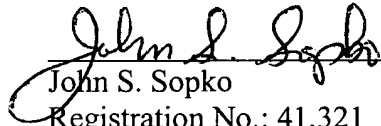
Therefore, Applicants respectfully submit that independent claims 1 and 20, and all claims dependent therefrom, are patentably distinct. The claims as now presented are neither anticipated nor rendered obvious by the cited art, whether taken alone or in combination. In fact, the invention as now claimed is directly contrary and thus unobvious in light of the teachings of the cited art, since all of the references require a sloped surface to cause the heavy waste to move to the outlet end of the container by gravity settling rather than by flow effects. As such there is no need or motivation in the cited art to extend the outlet baffle downwardly and then inwardly into the container to place the inlet of the outlet adjacent to the heavy waste removal area. This application is therefore believed to be in condition for allowance. Favorable action thereon is therefore respectfully solicited.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

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The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any, under 37 C.F.R. § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Respectfully submitted,


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